REEL # 33
TELNOV, N.T.

UDC 678.06-419.8:677.5217.004.14:
631.37:656.7

USSR

SAKALLY, M. TS., GOLUBEVA, L. I., BALASHOV, A. YA., PLATONOVA,
V. N., TELINOV, N. T.

"Utilization of Fiberglass Plastics for Agricultural Aviation
Apparatus"

Moscow, Plasticheskiye Massy, Vol 2, 1970, pp 58-59

Abstract: Because of the fact that metallic units used in air
spraying of agricultural fertilizers or toxic agents are
corrosive, an attempt was made to find more resistant materials.
The authors experimented with fiberglass VPS-7, 11-EDM, EF
32-301, PN-1 materials and with low density polyethylene. As
a result of their work, materials were made from fiberglass
VPS-7 to assure strength, and plated with low density poly-
ethylene films to give the desired chemical resistance. In
this manner reservoirs for chemical agents and the dispersing
arms could be manufactured.

1/1

1/2   023   UNCLASSIFIED   PROCESSING DATE--18SEP70
TITLE--RADIOISOTOPE SCANNING OF THE LIVER IN THE RESTORATIVE PERIOD AFTER
   RESUSCITATION OF THE ORGANISM -U-
AUTHOR-(04)-RADUSHKEVICH, V.P., MIKHAYLOV, M.M., KOSONOGOV, L.F., TELNOV,
   YU.A.
COUNTRY OF INFO--USSR

SOURCE--KHIRURGIYA, 1970, NR 4, PP 105-108

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RADIOISOTOPE, MEDICAL NUCLEAR APPLICATION, LIVER,
   RESUSCITATION, CLINICAL DEATH, IODINE ISOTOPE, TAGGED ATOM, ROSE BENGAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1217   STEP NO--UR/0531/70/000/004/0105/0109

CIRC ACCESSION NO--AP0054112
                       UNCLASSIFIED

UNCLASSIFIED

CIRC ACCESSION NO--AP0054112

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DEPICTS THE EXPERIENCE
IN RADIOISOTOPE SCANNING OF THE LIVER OF THE RESUSCITATED ORGANISM WITH
A DIFFERENT DURATION OF CLINICAL DEATH. A RADIOIODINE LABELLED SOLUTION
OF BENGAL ROSE WAS INTRODUCED INTRAVENOUSLY IN A DOSE OF 2 MUG-KG OF
BODY WEIGHT. EXPERIMENTAL AND CLINICAL INVESTIGATIONS TESTIFY TO THE
GREAT VALUE OF RADIOACTIVE SCANNING OF THE LIVER IN THE RESUSCITATED
ORGANISM. SCANNING YIELDS ADDITIONAL INFEORMATION ON THE CLINICO
BIOCHEMICAL DATA FOR THE EVALUATION OF THE FUNCTIONAL CAPACITY OF THE
LIVER.

UNCLASSIFIED

Television

UDC: 681.14.523.8

USSR

BRAUDE, G. V., BONCH-BRUYEVICH, A. M., GEL'FANDBEYN, Ya. A., GULIN, I. K., KRIVOSHEYEV, M. I., MIRSKIY, G. Ya., TISHCHENKO, I. M., TEL'NYKH, O. A., KHESIN, A. Ya.

"A Television Device for Determining the Coordinates of Point Objects"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 26, Sep 71, Author's Certificate No 313210, p 165

Translation: This Author's Certificate introduces a television device for determining the coordinates of point objects. The device contains a television transmitting tube with memory, an output scanning unit, a video signal processing unit, an erasure unit, a synchronizing unit, a cadence pulse generator, an optical shutter, and a data input module. As a distinguishing feature of the patent, the accuracy of coordinate determination is improved by tying series-connected horizontal and vertical interrogation counters to the output of the cadence pulse generator. The counter outputs are connected through shaping matrixes for horizontal and vertical deflection to the input of the output scanning unit. At the same time, a second output of the vertical interrogation counter is connected through a decoder to the data input module.

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2.

UDC: 681.327.12

USSR

KOROVIN, V. G., KOTIKOV, Yu. P., REPIN, V. I., SAMORUKOV, V. A., SYSOYEV, N. V., TEL'NYKH, O. A.

"A Computer Tape-Punching Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 13, May 72, Author's Certificate No 335704, Division G, filed 3 Jul 69, published 11 Apr 72, p 210

Translation: This Author's Certificate introduces a device for punching computer tape. The device contains a perforating mechanism connected to the driven shaft of a single-turn drive clutch. The code electromagnets of the perforating mechanism are electrically connected to the program head of a readout module. The device also incorporates a tape transport mechanism with two geared drive drums and the wheel of a ratchet mechanism fastened on a common shaft. The dog of the ratchet mechanism is connected to the driven shaft of the single-turn drive clutch. As a distinguishing feature of the device is improved by feature of the positioning precision of the device is improved by tolerance of a punching mechanism drive and the crank of a quadricone on the driven shaft of the single-turn drive clutch

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CVIN, V. G. et al., USSR Author's Certificate No 335704

nd by fastening the dog of the ratchet mechanism on the rocker arm of the quadric-crank mechanism, which is mounted on the common shaft of the tape-transport mechanism.

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UDC 535.853.3

USSR

GERASIMOV, F. M., SERGEYEV, V. P., TEL'TEVSKIY, I. A., and SERGEYEV, V. V.

"Optoelectronic Servo System for Controlling the Making of Diffraction Gratings"

Leningrad, Optika i Spektroskopiya, Vol 28, No 6, Jun 70, pp 1196-1203

Abstract: The article describes an optoelectronic servo system developed by the authors for controlling the ruling engine for the making of diffraction gratings. The system permits continuous and high-precision synchronization of the movement of the grating being fabricated and the diamond cutter which inscribes the lines. The system is based on the principle of a selsyn connection between the ruling carriage and the main shaft of the machine. The optoelectronic block measures the movement of the ruling carriage over the interference moiré fringes and acts as a transmitting selsyn. All elements of the electronic block use semiconductor devices. Adjustments are made by changing the rotational speed of the worm of the ruling engine through

1/2

USSR

UDC: 542.65:546.289

MOROZOV, V. N. and VENEDIKTOV, A. A.

"Kinetics of Crystallization and Natural Aging in Germanium Dioxide"

Abstract: Since the broad use of GeO_2 for manufacturing new types of glass requires a detailed study of the transitions in GeO_2 for various modes of thermal processing, the authors have undertaken the experiments described in this paper. Their primary purpose is to investigate the interactions of GeO_2 in vitreous form with the atmosphere because that substance is a hygroscopic material. There is little available data in the literature on this point. The method of infrared spectroscopy was primarily used in this research. Included in the scope of the experiments was the natural aging of vitreous GeO_2 under the action of the atmosphere. As the reason for their interest in this subject, the authors cite the fact that of all the oxides of elements in the IV column of the periodic table, GeO_2 is unique in that it is readily soluble in water. In concluding, they express their gratitude to V. A. Florinskaya, V. H. Polukhin, V. A. Frank-Kamenetskiy, and G. I. Lisyuk for their assistance.
1/1

USSR

UDC 614.73(47-25)"1962-1967"

ZYKOVA, A. S., TELUSHKINA, Ye. L., RUBLEVSKIY, V. P., YEFREMOVA, G. P., and KUZNETSOVA, G. A.

"The Content of Artificial Radioactive Isotopes in the Air of Moscow in 1962-1967"

Moscow, Gigiyena i Sanitariya, No 4, 1970, pp 50-53

Abstract: The content of radioactive isotopes in 1962-1967 w.s highest throughout 1962 and early 1963, i.e., while nuclear weapons were being tested and during the first few months after the tests were halted. Even at the time of the most intense fallout, the mean concentration in the atmosphere was about $3 \cdot 10^{-15}$ curie/liter, or below the maximum permissible level established by Soviet health legislation. The level of radioactivity began to drop in the fall of 1963, and it continued to do so in all the years that followed. The mean annual concentration of radio-active aerosols from 1962-1967 decreased 40-fold, and that of Cs^{137} and Sr^{90} approximately 10-fold

1/1

USSR

DAVYDOVA, N. S., DANYUSHEVSKIY, Yu. Z., TELYATNIKOV, L. I., Members of the
Scientific and Technical Society of Radio Engineering, Electronics and Com-
munications imeni A. S. Popov

"Linear Theory of a Distributed Microwave Amplifier on a Zener Diode"

Abstract: The authors consider the technical characteristics of a distrib-
uted Zener-diode amplifier in the linear approximation. Relations are found
for the basic parameters as a function of the input signal frequency and the
controlling bias current density. The parameters of a strip-line silicon
amplifier with P^+-N-N^+ structure are calculated. It is found that such an
amplifier can provide a gain of 25-30 dB/cm in a band of the order of 15%.
The amplifier can act simultareously as a phase shifter with electronic con-
trol, which makes it attractive for use as an active antenna element. The
initial results will have to be refined to account for nonlinear effects
which can have an appreciable influence on the basic parameters of the ampli-
fier as the amplitude of the propagated wave increases.

1/1

USSR   UDC: 539.4:624.012

DARAGAN, K. A., BOZHKOV, V. I., TELYANTNIKOV, V. M., BORODIN, V. Ya.

"Experimental Investigation of the Supporting Capacity of a Prestressed
Reinforced Concrete Beam"

Sb. tr. Khabarovskiy politekhn. in-t (Collection of Works of the Khabarov
Polytechnical Institute), 1969 (1970), vyp. 19, pp 112-116 (from RZh-Mekhanika,
No 9, Sep 70, Abstract No 9V928)

Translation: Thi. paper presents the results of an experimental investigation
of a thin-walled T-beam with prestressed reinforced concrete wall designed for
the span structures in bridges. The experimental beam was a combination
structure made up of a reinforced concrete rib with a plate concretized to it.
The rib measured 55 x 4.5 cm thickened in the lower zone to accommodate the
prestressed reinforcement. The rib was made from grade 500 cement-sand mortar.
The rib was reinforced by 12 fabric nets No 5 GOST 3826-47 with 0.7 mm
diameter wire, a single welded frame of corrugated rod reinforcement 12 mm in
diameter of class A-II steel and high-strength prestressed cold-rolled
corrugated wire 5 mm in diameter in a bundle of 12. The shelf was made from
grade M300 concrete and had structural reinforcement. The goal of the research
was to determine the supporting capacity, rigidity and crack resistance of the
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USSR

DARAGAN, K. A., et al., Sb. tr. Khabarovskiy politekhn. in-t, 1969 (1970),.
vyp 19, pp 112-116

beam when subjected to a uniformly distributed load. The beam was loaded
in stages amounting to 10 percent of the rated breaking load. Deformations
and vertical displacements were measured by electric strain gauges and
deflectometers respectively. The beam was not loaded to fracture. The
maximum values of the bending moment and the transverse force were 10.2 Tm and
9.5 T respectively. Under maximum loading, equal to 18 T, the greatest
flexure of the beam was 2.22 mm, which is 1/1955 of the span. Cracks
appeared under loading amounting to 65 percent of the fracture load.
Z. L. Gil'gur.

2/2

TITLE--SODIUM BOROGLUCONATE -U-

AUTHOR-(03)-TELZHENSKAYA, P.N., SVARCS, E., IEVINS, A.

COUNTRY OF INFO--USSR

SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, KIM. SER. 1970, (2), 239-40

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANOSODIUM COMPOUND, ORGANOBORON COMPOUND, IR SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO-----FD70/605013/809 STEP NO--UR/0464/70/000/002/0239/0240

CIRC ACCESSION NO--AP0140356

UNCLASSIFIED

CIRC ACCESSION NO--AP0140356
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SODIUM "BOROGLUCONATE" NA SUB3 HB
  SUB2 C SUB12 H SUB22 O SUB18.3H SUB2 O N PRIME20 SUBD 1.518, D PRIME25
  1.631, WAS PREPD. BY NEUTRALIZATION OF A 1:1 SOLN. OF BORIC ACID AND NA
  D GLUCONATE WITH NAOH UP TO PH EQUALS 8. THE IR SPECTRA AND STRUCTURAL
  FORMULA OF THE PRODUCT ARE PRESENTED.   FACILITY: INST. NEORG.
  KHIM., RIGA, USSR.

UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--18SEP70
TITLE--NEW ISOMORPHIC PHASES FROM MAGNESIUM, NICKEL, AND ZINC ASTRAKANITES
    (M PRIMEII SO SUB4 NA SUB2 SO SUB4 AND 4H SUB2 O) -U-
AUTHOR-(02)-DRUZHININ, I.G., TEMBOTOV, B.K.

COUNTRY OF INFO--USSR

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--AQUEOUS SOLUTION, SOLID SOLUTION, DISTRIBUTION COEFFICIENT,
    NICKEL COMPOUND, SODIUM COMPOUND, CRYSTAL HYDRATE, SOLUBILITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/0936   STEP NO--UR/0078/70/015/002/0525/0527

CIRC ACCESSION NO--AP0053860
                                UNCLASSIFIED

CIRC ACCESSION NO--AP0053860

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF MG ASTRAKANITE,
$MGSO_4 . NA_2 SO_4$ AND $4H_2 O$ (I), WITH ITS NI AND ZN ANALOGS
WAS STUDIED IN AQ. SOLNS. AT 30DEGREES. CONTINUOUS SOLID SOLNS. FORM IN
THE SYSTEMS $MSO_4 . NA_2 SO_4$-I-H $SUB2$ O (M EQUALS NI, ZN); SOLY.
DIAGRAMS OF THESE SYSTEMS ARE CONSTRUCTED (30DEGREES). DISTRIBUTION
COEFFS. OF THE COMPONENTS BETWEEN THE SOLID AND LIQ. PHASES ARE GIVEN.

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USSR   UDC 531.1

STOROZHENKO, V. A., TEMCHENKO, M. YE., Kiev

"The Application of the Theory of Finite Rotations to the Problem of the Autonomous Determination of the Coordinates of a Moving Object"

Moscow, Mekhanika tverdogo tela, No. 3, May/Jun 71, pp 3-10

Abstract: An inertial navigation system of the semi-analytical type is discussed in which a horizontally stabilized platform is used. It is assumed that the point of suspension of the platform coincides with the geometric center of the object on which the system is located and that it moves in an arbitrary manner over the surface of the earth. The theory of finite rotations of a solid is applied to solve the problem of the autonomous determination of the coordinates of the position of the moving object. It is shown that the location of the object can be determined if a vector of finite rotation θ is constructed on its edge by using the projections ω_x, ω_y, ω_z of the angular velocity vector of the trihedron xyz (rigidly connected to the stabilized platform of the inertial navigation system) on its own axes. The analytical sense of the Cayley-Klein parameters characterizing a finite rotation of a solid is explained as applied to the problem of autonomous determination. This is done by introducing a coordinate system which is a stereographic reflection of the Cartesian coordinate system on a sphere. The analogy with the movement of a solid around a

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USSR

STOROZHENKO, V. A., TEMCHENKO, M. YE., Mekhanika tverdogo tela, No. 3, May/Jun 71, pp 3-10

fixed point makes it possible to show how one can determine the coordinates of the location of an object on the basis of the changing Cayley-Klein parameters. To determine the position of an object relative to the rotating earth, one constructs a curved coordinate grid on a rotating sphere. It is noted that the orientation of the stabilized platform of the inertial navigation system in the azimuth is of no value in determining the location of a moving object.

2/2

USSR   UDC 531.1

STOROZHENKO, V. A., TEMCHENKO, M. YE., Kiev

"Problem of Autonomous Determination of the Location of an Object in Polar Regions"

Abstract: An inertial navigation system in the cartesian coordinate system stereographically mapped on a sphere was proposed in a previous paper [V. S. Kamenskiy, Izv. AN SSSR. Tekhnicheskaya kibernetika, No 2, 1965]. It was assumed that the stabilized platform of the system had to be specially oriented azimuthally. A structural diagram of the autonomous determination system designed for navigation in polar latitudes was constructed using a log and a number of simplifying assumptions. In the present paper, a study is made of an autonomous determination system constructed on the basis of a horizontal platform arbitrarily oriented azimuthally. The coordinates of the moving object are calculated in the system using the Cayley-Klein parameters and the cartesian coordinate system stereographically mapped on a sphere. The given system can be used without simplifying assumptions both in middle and high latitudes. A comparative analysis of the version of the inertial navigation system investigated here and the one designed by Kamenskiy is performed.
1/1

"Uniaxial Magnetic Anisotropy in Single-Crystal Fe-Co Films"

Abstract: A study was made to explain the nature of the uniaxial anisotropy observed in single-crystal Fe-Co Films. The films were prepared by vacuum condensation of Fe-Co vapors on the surfaces of LiF and MgO single crystals for which a portion was condensed in a magnetic field of approximately 150 oersted using a horseshoe magnet. Films having a b.c.c lattice and containing up to 70% Co were investigated. Measurements were made of the constant of uniaxial anisotropy K_u for films condensed in a magnetic field and without it. The greatest values of K_u (up to 10^5 erg/cm3) were observed in films with 70% Fe and 30% Co. Values of K_u were measured after cooling the films to the temperature of liquid nitrogen in the magnetic field. The results obtained testify to the fact that the reason for a large unixial anisotropy of the films is directed ordering of the alloy. The authors thank N.M. REPIN for his assistance in conducting the experiments. 3 tables, 5 bibliographical references.
1/1

1/2   038   UNCLASSIFIED   PROCESSING DATE--11SEP70
TITLE--EFFECT OF MAGNETOSTRICTION DEFORMATIONS ON THE EPITAXIAL GROWTH OF.
    FERROMAGNETIC FILMS -U-
AUTHOR--PYNKO, V.G., TEMCHENKO, N.SH., ANNATAGANOV, N.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(3), 960

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--EPITAXIAL GROWTH, FERROMAGNETIC FILM, NICKEL ALLOY, PALLADIUM
    ALLOY, SINGLE CRYSTAL FILM, MAGNETOSTRICTION, IRON ALLOY, COBALT ALLOY,
    MAGNETIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0654   STEP NO--UR/0181/70/012/003/0960/0960

CIRC ACCESSION NO--AP0105633
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0105633

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A SERIES OF FILMS WAS PREPD. OF BINARY ALLOYS OF THE SYSTEM FE-NI-CO. A MAGNETIC FIELD HAS ALMOST NO EFFECT ON THE GROWTH OF FILMS WHICH HAVE SMALL MAGNETOSTRICTION, E.G. 80NI-20FE. ON NACL SUBSTRATES WITHOUT APPLICATION OF A MAGNETIC FIELD, NO GOOD SINGLE CRYSTAL FILM OF NI-PD CAN BE GROWN CONTG. 30-60PERCENT PD, I.E. ALLOYS HAVING ESP. HIGH MAGNETOSTRICTION. ON ZIF (SIC) AND MGO SUBSTRATES THESE ALLOYS GROW AS SINGLE CRYSTALS. THE MECHANISM OF GROWTH OF THESE FILMS IS DISCUSSED.

UNCLASSIFIED

Acc. Nr.
AP0042031
Abstracting Service:
CHEMICAL ABST.
Ref. Code
UR 0366

89678j Photochemical interaction of N-chloroperfluoro(methylethyl)amine with sulfur chloride pentafluoride. Moldavskii, D. D.; Temchenko, V. G. (USSR). Zh. Org. Khim. 1970, 6(1), 185-8 (Russ). The irradn. of 1:1 $F_3CNC_2F_4Cl-SF_5Cl$ mixt. in a quartz bulb at 20°/760 mm gave 70% $F_3CC_2F_4NN-C_2F_5CF_3$, ~30% $F_3CC_2F_4NSF_5$, Cl, and small amts. of S_2F_{10}. The yields of $F_3CC_2F_4NSF_5$ decreased to approx. 10% when the mixt. was irradiated in a Pyrex glass bulb.   CPJR

REEL/FRAME
19751928

USSR   UDC 591.185+591.582.2:598.65

IL'ICHEV, V. D., GURIN, S. S., TEMCHIN, A. N., and VORONETSKIY, V. S., Soil
Biology Faculty, Moscow State University

"Biological Signals and Functional Characteristics of the Pigeon Acoustic System"

Moscow, Zhurnal Obshchey Biologii, No 3, 1970, pp 268-275

Abstract: The frequency range, spectral and amplitude characteristics, duration,
time intervals, and front of courtship cooing, threat and fledgling signals in
pigeons were studied. All of these parameters, except the spectral ones, show
great variability. The relationship between the amplitude of the cochlear
potentials and evoked medullar, mesencephalic, and hemisphere potentials, on the
one hand, and the parameters of acoustic signals, on the other, were also studied.
A comparison of the above-mentioned parameters of the biological signals with
conditioned reflexes and other functional characteristics of the acoustic system
in pigeons failed to disclose any significant correlation. The reason for this
may lie in the nature of the ecology of the pigeon, whose acoustic orientation
does not require these systems to be carefully adjusted to each other. For
example, unlike some other birds, the pigeon does not need to perceive and locate
low-frequency sounds, because its biological signals are normally used in con-
junction with vision.
1/1

USSR   UDC 612.85:598.2

IL'ICHEV, V. D., GURIN, S. S., and TEMCHIN, A. N., Moscow State
University

"Electrophysiological Characteristics of the Avian Acoustic Analysor.
I. Mesencephalic, Diencephalic, and Hemisphere Nuclei"

Moscow, Nauchnyye Doklady Vysshey Shkoly. Biologicheskiye Nauki,
No 1, 1970, pp 38-49

Abstract: A review of the literature on electrophysiological studies
of the auditory system in birds is presented. The electrophysiological
characteristics and morphological data indicate that there are
acoustic projections in the regions of the frontal and caudal
neostriatum, ovoid nucleus, dorsal portion of the lateral mesence-
phalic nucleus and, apparently, in the isthmic nuclei. The nature
of the evoked potentials in these regions and their dependence on
the parameters of the acoustic signal is described.

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- 50 -

TEMCHIN, S.M.

ACCELERATION OF IONS BY A RELATIVISTIC ELECTRON BEAM

UDC 533.9.07

Abstract:

The effect of ion acceleration by a relativistic electron beam was
investigated. Protons were accelerated to 6 - 7 million electron volts
for an energy of an electron beam of approximately one million electron
volts. The beam composition and its energy distribution were studied. It
was demonstrated that the energy of protons accelerated by electrons rises
more rapidly than linearly with an increase in the accelerating voltage in
the 0.3 - 1 million electron volts range.

The effect of ion acceleration in an electron beam was observed
initially when obtaining nonrelativistic electron beams from a plasma emitter
[1]. Protons and ions of carbon with maximum energies of 4 - 5 and 10 - 20
kev were recorded in the following experiments for an average of 200 - 300
kev electron energy [2]. A linear rise in the energy of ions with an in-
crease in the energy of electrons who observed in the range of 10 - 200 kilo-
volt accelerating voltages under optimal conditions for ion acceleration.
This opened up the possibility for creating an electron jet ion accelerator.
At 10 - 100 Mev using 1 - 2 Mev relativistic electron beams. Some investi-
gations in this direction were conducted using high current electron reson-
tor accelerators.

Arrangement of Experiment

Ion acceleration by means of electrons was done by using a variable
accelerating voltage oscillating with a frequency of 6.3 megahiz and an
amplitude of 0.2 - 1 megavolts applied to the accelerating gap. The high

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[1 - USSR - L]

USSR   UDC 535.99

CHERNETSKIY, A.V., RYCHKOV, B.A., TEMEYEV, A.A.

"Investigation Of Low-Frequency Oscillations In Power Plasmatrons"

V sb. Vopr. fiz. nizkotemperaturn. plasmy (Problems Of The Physics Of Low Temper-
ature Plasma--Collection Of Works), Minsk, "Nauk. i tekhn.," 1970, pp 566-570
(from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A339)

Translation: The mechanism is considered of the formation of magneto-sonic waves
in plasma and the coupling of them with oscillations in the exterior circuit. The
effect is investigated of oscillations at the parameters of the plasma source. Cir-
cuits are considered which make it possible to investigate the oscillations in the
regions adjacent to the electrodes, for improvement of certain characteristics of
the plasmatron. 2 ill.
1/1

USSR   UDC: 621.372.543

TEMICHEV, A. S.

"Method for Reducing Automatic Tuning Errors in a Receiver Band Filter"

Leningrad, Izvestiya VUZ -- Priborostroyeniye, No. 7, 1970, pp 45-49

Abstract: The author proposes an extremal optimizer which provides a solution to a particular problem, the search for and tuning of a single band filter for the useful signal. The tuning criterion is the signal energy maximum level under the condition that the filter frequency characteristic remain constant. The block diagram of the optimizer, including the input band filter, an amplifier, a detector, a low-frequency filter, a maximum input-level memory circuit, a threshold element, a control positioning element, is shown. The antenna signal is fed simultaneously to the optimizer band filter and the input band filter of the receiver. The author computes the basic parameters of the extremal system for controlling the receiver filter to determine the effective operation of

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USSR

TEMICHEV, A.S., Izvestiya VUZ - Priborostroyeniye, No 7, 1970, pp 45-49

the system. He offers a formula for an important parameter, the
loss in search, in terms of the threshold element insensitivity,
the extremal characteristic parameter, the modulus of the search
speed, and the low-frequency filter time constant. A qualitative
description is given of the optimizer block diagram and the opera-
tion of the individual blocks. The tracking error between the
optimizer input filter and the receiver input filter does not ex-
ceed 0.1 kHz in a 60-kHz range, according to research conducted
by the author.

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AMINO ACID COMPOSITION OF MYOSIN AND ACTINE IN THE MUSCLES OF EXPERIMENTAL ANIMALS WITH HEREDITARY MYOPATHY

L. O. Badalyan, Ye. S. Bondarenko, Ye. I. Gusev, Yu. Ye. Lukoyanov, G. G. Revich,
P. A. Temin, Yu. D. Sharets

N. I. Pirogov II Moscow Medical Institute

Amino acid composition of myosin and actine was analyzed in 10 healthy, 12 sick
and 12 heterozygous mice of the 129/RE line with hereditary myopathy. Increased laicin
with isoleicin, valine, alanine and lowered tyrosine and histidine content was found
in the amino acid spectrum of myosin in sick mice. In heterozygous animals higher
valine and lowered tyrosine and histidine levels were recorded. In the amino acid com-
position of actine in the sick and heterozygous mice glycine was up and histidine—
down.

REEL/FRAME
19820420

USSR

TAKIBAYEV, ZH. S., BOOS, E. G., SAN'KO, L. A., TEMIRALIYEV, T.,
ANTONOVA, M. G., YERMILOVA, D. I., MUKHORDOVA, T. I., KHOLMET-
SKAYA, A. V., and FEDOSEYENKO, V. V., Institute of Nuclear Phys-
ics, Academy of Sciences Kazakh SSR

"Study of Dynamics of Resonance Production in Four-Track Proton-
Proton Interactions at Momentum of 10 Gev/c"

Abstract: The article gives an analysis of 1800 four-track
proton-proton interactions recorded in an 81-cm Saclay hydrogen
bubble chamber irradiated with protons with a momentum of 10.01 ± 0.01 Gev/c on the CERN synchrotron. The following reactions are
considered:

$$pp \rightarrow pp\pi^+\pi^-, \qquad (1)$$

$$pp \rightarrow pp\pi^+\pi^-\pi^0, \qquad (2)$$

$$pp \rightarrow pn\pi^+\pi^+\pi^-. \qquad (3)$$

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USSR

TAKIBAYEV, ZH. S., et al., Yadernaya Fizika, Vol 13, No 1, 1971, pp 113-123

Nucleon and meson resonance production cross-sections are determined and the contribution of two-particle reactions studied. It is shown that pion production in all the channels considered is accompanied in most cases by nucleon resonance production. The contribution of boson resonances, which is greatest in the channel with π^0 meson production, does not exceed 10 percent of the reaction channel cross-section. The use of the maximum momentum method permits estimates of the cross-sections for different quasi-two-particle reactions. The cross-sections of the dynamic states being observed differ considerably in channels (2) and (3), where the number of pions and nucleons coincides. This may be due to changes in the nucleon charge in inelastic pp interactions.

2/2

USSR

TAKIBAYEV, Zh. S., BOOS, E. G., SAN'KO, L. A., and TEMIRALIYEV, T., Institute of High Energy Physics, Academy of Sciences USSR

"Study of Quasi-Two-Particle Reactions in Proton-Proton Interactions at 10 Gev/c"

Abstract: The properties of quasi-two-particle reactions of the type $pp \to pN^*$, $pp \to p\Delta$, $pp \to \Delta N^*$, and $pp \to \Delta\Delta$ were studied. The reactions were identified in studying four-beam proton-proton interactions in an 81-cm hydrogen bubble chamber of Saclay irradiated at CERN by 10.01 ± 0.1 Gev/c protons. The re-action cross sections of the four reactions are given in a table. A second table gives experimental values for the ratio of the cross sections of dif-ferent isotopic projections of the two-particle reaction $pp \to \Delta_{1236}\Delta_{1950}$. They are compared with calculations made for possible decay schemes of the isobar $\Delta_{1950} \to N_{\pi\pi}$. It was assumed that the isospin of the exchange particle is equal to unity. The experimental data are in good agreement with this hypothesis. It is also shown that the experiment does not contradict two hypotheses concerning the type of decay $\Delta_{1950} \to (\pi\pi)_{T=1} + N_{T=1/2}$ and Δ_{1950} 1/2

USSR

TAKIBAYEV, Zh. S., et al, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 13, No 3, 5 Feb 71, pp 122-125

$\rightarrow (\pi)_{T=1} + \Delta(\pi N)_{T=3/2}$; the latter mode of decay agrees somewhat better with the average experimental values.

2/2

USSR   UDC $\triangle 539.1.073/.074$

SAN'KO, L. A., TAKIBAYEV, ZH. S., BOOS, E. G., VOLKOVA, O. I., MOSIYENKO
A. M., ZAYTSEV, K. G., TEMIRALIYEV, T. T., and KHOLPETSKAYA, A. V.,
Institute of Nuclear Physics, Kazakh SSR Academy of Sciences, Alma-Ata

"Identification of Secondary Particles From the Ionization Losses in a
Hydrogen Bubble Chamber"

Abstract: The authors give the results of identifying secondary charged
particles forming in the interactions of protons at an empulse of 10
GeV/sec in an 81-cm hydrogen bubble chamber. They show that by using the
method of average length of discontinuities they can determine the nature of
30% of all positive particles in a certain range. Graphs are used to illus-
trate the authors' results. Figure 1 shows the relative error in density as
a function of track length. Figure 2 shows the ionization curves computed
for various types of particles. Figure 3 shows the distribution of the
points relative to the ionization curves for positive and negative particles.
Analysis of the authors' results shows that the method described herein will
allow identification of 90% of all the particles measured. The article
contains 3 figures and 4 bibliographic entries.

1/1

USSR

TAKIBAYEV, Zh. S.; TEMIRALIYEV, T. T.

"Study of the Angular Distribution of Particles with Energies of 10 bev"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR: Seriya Fiziko-Matematicheskaya;
November-December, 1970; pp 29-33

ABSTRACT: The work is devoted to a study of the angular distribution of par-
ticles and an explanation of the mechanism of particle generation in bimodal
jets. About 700 quadribeam PP-interactions were recorded in an 81-cm hydrogen
bubble chamber at CERN irradiated with protons having a pulse of 10 bev/sec.
It is shown that the dynamic characteristics of secondary charged particles
for various groups of showers (D < 0, D = 0, D > 0) are the same, within the
limits of statistical error.

1/2

USSR

TAKIBAYEV, Zh. S., et al, Izvestiya Akademii Nauk Kazakhskoy SSR: Seriya Fiziko-
Matematicheskaya; November-December, 1970; pp 29-33

The distribution of the effective mass of a $(P\pi)$-system has a sharp peak
in the Δ_{1236} region of mass. This indicates that a large proportion of cases
takes place during the formation of Δ_{1236}. It is shown that bimodal showers
are related to a joint production of an isobar, with their subsequent decay.
Bimodality occurs under those conditions in which excited baryons are strongly
collimated.

The article includes two tables, 4 figures. There are 19 references.

1/2   006   UNCLASSIFIED   PROCESSING DATE--13NOV70
TITLE--CONTINUOUS ALKYLATION OF PHENOL IN THE PRESENCE OF BENZENESULFONIC
  ACID ON INDUSTRIAL APPARATUS -U-
AUTHOR-(05)-TEMIRGALIYEV, I.G., MITZOFANOV, M.G., BOBYLEV, V.V., DEREKH,
  P.A., RUMYANTSEV, A.G.
COUNTRY OF INFO--USSR

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (5), 20-1 (RUSS)

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--AKLYLPHENOL, BENZENE, SULFONIC ACID, INDUSTRIAL PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1076   STEP NO--UR/0318/70/000/005/0020/0021

CIRC ACCESSION NO--AP0134765
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0134765
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY CONTINUOUS AS COMPARED WITH
  PERIODIC ALKYLATION, THE PRODUCTION OF ALKYL PHENOLS WAS INCREASED FROM
  50-60 TO 90-180 KG-HR PER M PRIME3 REACTION VOL., PHOH CONVERSION TO
  SMALLER THAN OR EQUAL TO 98PERCENT, THE COMPN. AND COLOR OF ALKYLATION
  PRODUCTS WAS CONST., AND THE PROCESS COULD BE READILY CONTROLLED. THE
  CONTINUOUS PROCESS AND ELIMINATION OF WATER WASHING OF THE ALKYL PHENOLS
  PRODUCED FOR PREPN. OF ADDITIVES HAD HIGH ECONOMIC EFFICIENCY.
  FACILITY: NEFTEPERERAB. ZAVOD, VOLGOGRAD, USSR.

UNCLASSIFIED

TEMIROV, Yu. SH.

XIV-16.   GROWTH AND DEFECT STRUCTURE OF HETEROEPITAXIAL CdTe FILMS

[Article by Yu. Sh. Temirov, G. F. Kuznetsov, B. L. Zhitsin, S. Z. Arikhuzhin, Institute of Radioengineering and Electronics of the USSR Academy of Sciences, Moscow; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 206]

The sublimation method in a hydrogen current was used to obtain CdTe film on synthetic mica -- fluorophlogopite. Monocrystalline CdTe films were grown with two different temperatures of the deposition zone. It was demonstrated metallographically that in both cases there are growth configurations on the film surface. The increase in temperature of the substrate zone leads to an increase in the linear dimensions of the growth configuration, and it is accompanied by an increase in the surface relief. The defect structure of the heteroepitaxial CdTe films was studied by the Fujiwara method without separation of the film from the substrate. It was discovered that the dimensions and angles of disorientation of the subgrains depend on the temperature of the deposition zone.

- 213 -

Single Crystals

USSR   UDC 548.52:539.23

AYTKHOZHIN, S. A., and TEMIROV, Yu. Sh., Institute of Radio Engineering
and Electronics, Academy of Sciences USSR

"The Production of CdTe Single-Crystal Films by the Method of Condensation
From the Vapor Phase in a Hydrogen Flow"

Abstract: The authors used the method of condensation from vapor in a
hydrogen flow for the production of CdTe single-crystal films. The CdTe
films were grown by the open-tube method. Substrates of synthetic mica,
synthetic sapphire, gallium arsenide, and fluorite were used. The struc-
ture of the resultant films was studied by the electron diffraction method
(EG-4 and EG-100 electron-diffraction cameras), as well as microscopically
(MIM-8 microscope). It was found that the grown films represent the cubic
phase of CdTe. The thickness of the CdTe layers varies from a few microns
to several hundred, depending on the precipitation process time. It is
possible to obtain single-crystal layers with a thickness of the order of
1 mm. The optimal production conditions are described.
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USSR

2/2

USSR

ROZENBAUM, L. B. and TEMKIN, A. S.

UDC: 621.318.13

"New Parameter of Magnetically Soft Ferrites Designed for Tuning Circuits and Resonators"

Elektron. tekhnika. Nauchno-tekhn. sb. Ferrit. tekhn. (Electronic Engineering, Scientific-Technical Collection, Ferrite Techniques) 1970, No. 4(26), pp 45-52 (from RZh-Radiotekhnika, No. 3, March 71 Abstract No. 3B170)

Translation: A new parameter is proposed which characterizes the delay in reversing the magnetic permeability of ferrites with a rapid change in the magnetizing field. Resume

1/1

- 37 -

USSR   UDC: 621.375.121(088.8)

LONDON, S. Ye., RAUTIAN, V. G., TEMKIN, A. S.

"A High-Frequency Amplifier"

USSR Author's Certificate No 265958, filed 24 Jun 68, published 7 Jul 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1D45 P)

Translation: This Author's Certificate introduces an amplifier based on
two identical active elements (tubes or transistors) having a common
input signal source and a common load. To extend the passband, identical
reactive six-pole phase-difference networks of constant impedance are con-
nected at the input and output of the amplifier. Connected between the
active elements and the output six-pole phase-difference network is an LC
filter made in the form of two longitudinal circuits which are symmetric
relative to the common bus, and which are formed by equal inductances and
capacitances connected in series with them. The ends of the primary winding
of a symmetric transformer are connected to one of the capacitors, while
the opposing ends of the secondary are connected to the other capacitor.
The inputs and outputs of the longitudinal circuits are connected respec-
tively by inductances to each other, and by capacitors having equal values
by pairs, to the common bus.
1/1

24

USSR

ADO, YU. M., ZHURAVLEV, A. A., LOGUNOV, A. A., MYAE, E. A., NAUMOV,
A. A., PISAREVSKIY, V. YE., ROGOZINSKIY, V. G., TUSHABRAMISHVILI, K.
Z., SHUKEYLO, I. A., BOYKO, S. N., KOMAR, YE. G., MALYSHEV, I. F.,
MOZIN, I. V., MONOSZON, N. A., MOZALEVSKIY, I. A., SPEVAKOVA, F. M.,
STOLOV, A. M., TITOV, V. A., VODOP'YANOV, F. A., KUZ'MIN, A. A., KUZ'-
MIN, V. F., MINTS, A. L., RUBCHINSKIY, S. M., UVAROV, V. A., GUTNER,
B. M., ZALMANZON, V. B., PROKOP'YEV, A. I., and TEMKIN, A. S.

"Some Results of the Overall Adjustment and Start-up of the 70-Gev
Proton Synchrotron of the Institute of High-energy Physics"

Abstract: The physical part of the plan for the 70-Gev proton syn-
chrotron was executed by the Institute of Theoretical and Experimental
Physics.   The electromagnet with feed system, the vacuum chamber, and
the injection devices were developed at the Scientific Research Insti-
tute of Electrophysical Apparatus imeni D. V. Yefremov.   The radio-
electronic systems for acceleration process control and generation of

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USSR

the accelerating field, as well as the radiotechnical measurement and
beam observation systems, were developed by the Radiotechnical Insti-
tute of the Academy of Sciences USSR. "Tyazhpromelektroproyekt"
[State Planning Institute for the Planning of Electrical Equipment
for Heavy Industry] designed the general-purpose electrotechnical de-
vices and cable connections. The plan for the construction complex
of the accelerator was developed by the State All-Union Planning In-
stitute. The construction of the accelerator was under the general
supervision of the State Committee for the Use of Atomic Energy USSR.
The adjustment of individual systems and the overall adjustment and
start-up of the accelerator were carried out by the Institute of
High-energy Physics and the developers of the accelerator systems.
The basic beam work was done by the Institute of High-energy Physics
with the participation of the Radiotechnical Institute. The con-
struction of the accelerator was begun in 1960, and all the basic
construction and assembly work was completed at the beginning of

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USSR

ADO, YU. M., et al., Atomnaya Energiya, Vol 28, No 2, Feb 70, pp 132-138

1967. At the initial stage of construction, before the formation of the Institute of High-energy Physics in 1963, the work was coordinated by the Institute of Theoretical and Experimental Physics. The linear accelerator injector was started on 28 July 1967, the operation of the individual systems was adjusted by September 1967, and the physical start-up of the accelerator was accomplished on 14 October.

A description is given of the work done to adjust the annular electromagnet (including the electromagnet cooling and feed systems), the injection system (consisting of matching channel and injection device), the vacuum system, the radioelectronic system (including the accelerating field generation system, the acceleration process control system, and the radiotechnical measurement system), and the beam observation system (which provides for beam observation in the first revolution and during acceleration). In the physical start-up of the accelerator the main efforts were directed towards obtaining accelerated protons of the planned energy, and the problem of obtaining high

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ADO, YU. M., et al., Atomnaya Energiya, Vol 28, No 2, Feb 70, pp 132-138

intensity of the accelerated proton was not raised.

The article gives a listing of the principal parameters of the proton synchrotron, as well as a schedule of the individual stages of the start-up of the accelerator. Photographs include a view of the part of the ring hall in the beam injection area and a general view of the hall of ignitron rectifiers.

4/4

USSR

TEMKIN, D. YE. (Central Scientific Research Institute of Ferrous Metallurgy)

"Impurity Trapping by an Isolated Fracture during Crystal Growth"

Moscow, Kristallografiya; May-June, 1972; pp 461-5

ABSTRACT: Taking into account diffusion in the initial phase, the author studies impurity trapping during crystal growth caused by the movement of a fracture by stages. In the case of small concentrations of impurities an approximate expression is found for the capture coefficient, determined to be the ratio of the concentration in the growing crystal to the concentration in the initial phase far from the fracture, as well as an expression for the rate of movement of the fracture. A qualitative discussion of the characteristics of the nonstationary period during crystal growth due to the movement of the discontinuity for a certain stage density on it and fractures by stages is presented.
The article includes 13 equations. There are six bibliographic references.

1/1

USSR

DAVIDOVICH, Ya. G., GLUSKIN, A. Ya., TEMKIN, I. V., AVROROVA, G. V.,
PETROSYAN, L. S., KOZHEVNIKOV, V. I.

"Method of Manufacture of Metal-Graphite Brushes"

Translation: A method is suggested for the manufacture of metal-graphite
brushes, for example copper-graphite brushes, by mixing of graphite and pitch
in the solid state with the addition of Cu powder and subsequent pressing of
the mixture. In order to improve the characteristics of the brushes, the Cu
powder is mixed with the prepared mixture of graphite and pitch.

1/1

Adsorption

USSR

UDC 541.183

TEMKIN, M. I.

"Description of the Effects of Mutual Influence of Chemosorbed Particles Based on a Surface Electron Gas Model"

1-y Sov.-Yapon. seminar po katalizu. Novosibirsk, Iyul', 1971. Preprint 15 (First Soviet-Japanese Seminar on Catalysis. Novosibirsk, July 1971. Preprint 15), N.p.n.d., 8pp (from RZh-Khimiya, No 1(I), Jan 72, 1B1277 K)

Translation: It is shown that in selecting the effective mass of electrons collectivized in the near-surface layer equal to its value in a massive metal, and in the rational selection of the effective charge, a two-dimensional model of a free electron gas in the region of average coatings leads to a logarithmic isotherm whose slope is close to that given by experiment (atomic chemosorption of hydrogen on platinum and dissociative chemosorption of oxygen on silver are examined). V. K. Fedyanin.

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USSR   UDC 541.65

KIMEL'FEL'D, Ya. M., SMIRNOVA, YE. M., PERSHIKOVA, N. I., KALIYA, O. L., TEMKIN, O. N., and FLID, R. M., Institute of Spectroscopy, Academy of Sciences USSR, and Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov, Moscow

"Vibrational Spectra and the Structure of Phosphine and Phosphite Complexes of Palladium Chloride and Bromide"

Abstract: On the basis of data obtained by IR and Raman spectroscopy of the phosphine complexes $Pd(PPh_3)_2X_2$ (X = Cl, Br) and the phosphite complexes $Pd/P(OPh)_3/_2X_2$ (X = Cl, Br), it was established that the phosphine complexes have a trans-structure and the phosphite complexes a cis-structure. The difference in structure explains why the phosphite complexes are effective catalysts in the synthesis of acrylic acid esters from acetylene at atmospheric pressure according to C_2H_2 + CO + ROH → $CH_2=CH-COOR$, while the phosphine complexes are inactive in catalyzing this reaction. The authors thank G. K. Zhizhina, N. I. Afanas'-yeva, and A. V. Bobrova for assistance in determining the spectra of the complexes.

1/1

UNCLASSIFIED
TITLE—KINETICS AND MECHANISM OF CATALYTIC CONVERSIONS OF ACETYLENE. VI.
    HYDRATION AND HYDROCHLORINATION OF ACETYLENE IN SOLUTIONS OF CUPROUS
AUTHOR-(05)-SHESTAKOV, G. K., YERMAKOVA, A., MIKHALCHENKO, V.G., TEMKIN,
    O.N., FLID, R.M.
COUNTRY OF INFO—USSR

PROCESSING DATE—30OCT70

SOURCE—ZH. FIZ. KHIM. 1970, 44(2), 406-11

DATE PUBLISHED————70

SUBJECT AREAS—CHEMISTRY

TOPIC TAGS—CHEMICAL-REACTION MECHANISM, CHLORINATION, HYDRATION,
    ACETYLENE, COPPER CHLORIDE, CATALYSIS, REACTION KINETICS

CONTROL MARKING—NO RESTRICTIONS

DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRAME—2000/0892
                                STEP NO—UR/0076/70/044/002/0406/0411
CIRC ACCESSION NO—AP0124555
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0124555   PROCESSING DATE--30OCT70
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   THE KINETICS OF HYDROCHLORINATION
AND HYDRATION OF C SUB2 H SUB2 WERE MEASURED IN CUCLNH SUB4 CL,HCL,H
SUB2 O SOLNS. AT 80DEGREES IN A FLOWING GRADIENT FREE REACTOR.   THE
RATE OF HYDROCHLORINATION W PRIMEX EQUALS 0.573 TIMES 10 PRIME NEGATIVE6
A SUBCUPOSITIVE PRIME1.48 A SUBCLNEGATIVE PRIME2.7P SUBC2H2H SUB0 A
SUBH20 AND THE RATE OF HYDRATION W PRIMEA EQUALS 3.9 3.19 TIMES 10 PRIME
NEGATIVE6 A SUBCLNEGATIVE PRIME1.44 P SUBC2H2 H SUB0 A SUBH20)-(1 PLUS
2.6 H SUB0 A SUBH20). THE FRACTIONAL VALUES OF THE EXPONENTS AND AN
ANAL. OF THE PROPOSED REACTION MECHANISM INDICATE THE PRATICIPATION OF
CUCL PRIME2 NEGATIVE, CUCL SUB3 PRIME2NEGATIVE, AND CU SUB2 CL SUB3
PRIME NEGATIVE.   FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL. IM.
LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED   PROCESSING DATE--20NOV70
1/2   015
TITLE--MECHANISM OF THE ELECTROREDUCTION OF ORGANOMERCURY SALTS -U-

AUTHOR-(05)-YESIKOVA, I.A., TEMKIN, O.N., TOMILOV, A.P., FLID, R.M.,
YAKOVLEVA, N.N.
COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 264-5 (RUSS)

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTROLYTIC REDUCTION, ORGANOMERCURY COMPOUND, CHEMICAL
REACTION MECHANISM, ALCOHOL, ETHANOL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2063   STEP NO--UR/0076/70/044/001/0264/0265

CIRC ACCESSION NO--AP0125650
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0125650   UNCLASSIFIED   PROCESSING DATE--20NOV7C

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MECHANISM OF THE ELECTROCHEM.
STAGE OF THE ADDN. OF VARIOUS MOLS. TO OLEFINS IN AN ELECTROCHEM. SYSTEM
IN THE PRESENCE OF HG SALTS WAS STUDIED: C_nH_{2n} PLUS HX YIELDS
$C_nH_{2n}^+ X$, WHERE X EQUALS OH, OR, RC(O)O, NHR. THE
INTERMEDIATE SIGMA ORGANOMETALLIC COMPDS. ARE FORMED FROM OLEFINS AND HG
SALTS IN HX SOLNS. AT THE ELECTROLYSIS OF MERCURIOETHANOL SALTS ON A CU
AMALGAM CATHODE (PH 14, 0.01 A-CM $PRIME2$) THE PROCESS OCCURRED IN STEPS.
THE MECHANISM OF THE FORMATION OF ALC. AND C_2H_4 AT 1.7-1.9 V
IS AS FOLLOWS: $HG(C_2H_4 OH)_2$ PLUS E PRIME NEGATIVE YIELDS H
$SUB2.O HGC_2H_4 OH$ PLUS ETOH; $HG C_2H_4 OH$ PLUS E PRIME
NEGATIVE YIELDS (FAST) $(HGC_2H_4 OH)$ PRIME NEGATIVE YIELDS (SLOW)
HG PLUS C_2H_4 PLUS OH PRIME NEGATIVE. THE SYM. PRODUCT
DIETHANOLMERCURY WAS OBTAINED BY ELECTROLYSIS OF 4M MERCURIOETHANOL
CHLORIDE SOLN. IN ALK. MEDIA AT 0.8 V.   FACILITY: MOSK. INST.
TONKOI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

1/2   028   UNCLASSIFIED   PROCESSING DATE--04DEC70
TITLE--KINETICS AND MECHANISM OF THE CATALYTIC DIMERIZATION OF ACETYLENE.
   IV. EFFECT OF TEMPERATURE ON THE REACTION RATE -U-
AUTHOR-(04)-SHESTAKOV, G.K., TIKHONOV, G.F., TEMKIN, O.N., FLID, R.M.

COUNTRY OF INFO--USSR

SOURCE--KINET. KATAL. 1970, 11(3), 575-8

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL KINETICS, DIMERIZATION, ACETYLENE, CHEMICAL REACTION
   RATE, TEMPERATURE DEPENDENCE, EQUILIBRIUM CONSTANT, ACTIVATION ENERGY,
   CHLORINATION, HYDROGEN CYANIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605012/002 STEP NO--UR/0195/70/011/003/0575/0578

CIRC ACCESSION NO--AP0140284
                         UNCLASSIFIED

UNCLASSIFIED

CIRC ACCESSION NO--AP0140284

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXTREME DEPENDENCE OF RATE OF
C_2H_2 DIMERIZATION ON TEMP. WAS STUDIED. IN 50-95DEGREES
REGION, ALL PARAMETERS OF KINETIC EQUATION OF C_2H_2 DIMERIZATION
CHANGE IN DIFFERENT WAYS AND THE EFFECTIVE RATE CONST. (K SUBEFF) AND
ELEMENTARY STAGE EQUIL. CONST. (K SUBA) CHANGE WITH TEMP. ACCORDING TO
THE EQUATIONS: K SUBEFF EQUALS 8.92 TIMES 10 PRIME3 EXP(30,500-RT) MOLE
L. PRIME NEGATIVE1 HR PRIME NEGATIVE1 ATM PRIME NEGATIVE2 AND K SUBA
EQUALS 6.3 TIMES 10 PRIME NEGATIVE11 EXP(16,800-RT) ATM PRIME NEGATIVE1.
THE NEG. VALUE OF ENERGIES OF ACTIVATION IN THESE EQUATIONS IS
DISCUSSED AND AN ANALOYG IS GIVEN TO HYDROCYANATION AND
HYDROCHLORINATION OF C_2H_2 IN THE PRESENCE OF CU(I).
FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW,
USSR.

UNCLASSIFIED

TITLE--MECHANISM OF THE ACTION OF MULTICOMPONENT METAL COMPLEX CATALYSTS
   IN SOLUTIONS -U-
AUTHOR-(04)-TEMKIN, O.N., KALIYA, O.L., SHESTAKOV, G.K., FLID, R.M.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(2), 398-401

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION MECHANISM,   CATALYST ACTIVITY,   ALKENE,
   ACETYLENE,   METAL CATALYST,   ORGANOMERCURY COMPOUND,   EXCHANGE
   REACTION,   PALLADIUM COMPOUND,   ORGANOCOPPER COMPOUND,   ACETIC ACID,
   CHLORINATION,   COPPER CHLORIDE,   CHLORINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/1537   STEP NO--UR/0020/70/190/002/0398/0401

CIRC ACCESSION NO--AT0100162
                    UNCLASSIFIED

CIRC ACCESSION NO--AT0100162
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LITERATURE DATE WERE CRIT.
REVIEWED CONCERNING THE ACTION MECHANISMS OF MULTICOMPONENT METAL
COMPLEX CATALYSTS IN REACTION INVOLVING OLEFINS, AROMATIC COMPOS., AND
ACETYLENE. THE ADDITIVE, THE SUBSTRATE ACTIVATION, AND THE STEP BY STEP
MECHANISM WERE DISCUSSED, TOGETHER WITH THE MECHANISM IN WHICH ONLY
CONCN. AND ACTIVITY OF THE METAL CATALYST COMPLEX ARE AFFECTED BY ONE OF
THE CATALYTIC SYSTEM COMPONENTS. MOREOVER, EXPTL. STUDIES SHOWED THAT
PHOAC WAS OBTAINED WITH 78-84PERCENT YIELD WITHIN 6 HR BY THE CONVERSION
PHHGOAC-(NA O AC) YIELDS PHOAC PLUS HG IN BOILING ACOH. THE FOLLOWING
RESULTS WERE ESTABLISHED FOR THE EXCHANGE REACTIONS OF PHHGOAC WITH PDCL
SUB2, PD(OAC) SUB2, AND CU(OAC) SUB2 IN GLACIAL ACOH: (1) REACTIONS OF
ELECTROPHILIC SUBSTITUTION WERE MARKEDLY FASTER THAN THE OXION. REON.
HETEROLYSIS OF PD AND CU ORGANOMETALLIC COMPDS.; (2) BIPHENYL WAS FORMED
FAST AND QUANT. AT LOW TEMPS. IN THE PRESENCE OF PDCL SUB2; (3) IN THE
PD (OAC) SUB2-NAOAC SYSTEM, PHOAC AND BIPHENYL WERE FORMED WITH ABOUT
25PERCENT YIELD; (4) THE EXCHANGE OF PHHGOAC WITH CU(OAC) SUB2 OCCURRED
AT 60-80DEGREES, BUT PHENYLCUPRIO ACETATE DEGRADATION OCCURRED AFTER
LONG HEATING IN BOILING ACETIC ACID, AND THE PHOAC SO FORMED WAS RAPIDLY
MERCURATED AND SEPD. AS PHENOLMERCURIO ACETATE CHLORIDE. EXPTS. SHOWED
THAT EITHER TRANSCHLORO(BETA CHLOROVINYL)MERCURY OR BETA
CHLOROVINYLCOPPER WERE FORMED IN BOTH HYDROCHLORINATION AND
OXYCHLORINATION OF ACETYLENE AS INTERMEDIATE COMPOS., ACCORDING TO
WHETHER HGCL SUB2-HCL OR CUCL HCL SOLNS. WERE USED FOR THE REACTION.

UNCLASSIFIED

CIRC ACCESSION NO--AT0100162   UNCLASSIFIED   PROCESSING DATE--18SEP70
ABSTRACT/EXTRACT--THREE MECHANISMS WERE IDENTIFIED IN SUCH PROCESSES WHEN
THEY WERE CARRIED OUT IN CUCL CUCL SUB2 AND HGCL SUB2-CUCL SUB2 SOLNS.

UNCLASSIFIED   89

USSR

UDC 577.4

TEMKIN, V. L.

"A Method of Determining the State of Repair in an Automaton"

V sb. Tekhn. diagnostika (Technical Diagnostics -- collection of works), Moscow, Nauka Press, 1972, pp 200-204 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V409)

No abstract

1/1

Acc. Nr.: _AP0047040_

USSR

Ref. Code: _UR0122_

UDC 669.715:621.357.8:620.178.162 A

ZARETSKIY, E. M., Candidate of Technical Sciences, KESTNER, O. E., Candidate of Technical Sciences, KONDRASHINA, M. V., Engineer and TEMKINA, A. S., Engineer

"Wear Resistance of Hard Anodic Films on Aluminum Alloys"

Moscow, Vestnik Mashinostroyeniya, No 1, 1970, pp 58-59

Abstract: The results are presented of a series of investigations of anodizing conditions, under which an anodic film with increased antifriction properties is obtained on AK4-1 and D16T alloys. The antifriction properties of hard anodic films obtained in the sulfuric acid electrolyte, and also in a mixture of sulfuric and oxalic acids under various anodizing conditions, were obtained on samples made of AK4-1 and D16T alloys.

Reel/Frame
_19790478_

18

AP0047040.

D16T samples, anodized in the electrolyte, cooled by dry ice, were tested on a MI-1 test stand in the presence of sliding friction in a MC-20 oil and AMG-10 hydrolysis at 50 kg/cm² pressure, and 0.4 m/sec sliding velocity against steel. The AK4-1 samples were tested under condition of dry friction at 25 kg/cm² pressure during 30 hours. The results are presented in graphs in the form of the dependence of friction coefficient on time for AK4-1 samples in the MC-20 oil, and for D16T samples, anodized under various conditions. These conditions are given in a table. The results show, that hard anodizing in the electrolyte containing sulfuric and oxalic acids, makes it possible to obtain on the AK4-1 alloy, an anodic film of increased wear resistance with low friction coefficient when operating in a fluid medium. Under condition of dry friction a coating of VAP-2 substantially improves the sliding. Original article has 2 figures and 1 table.

19790479

USSR   UDC 537.533.2+537.534

PETROV, N. N., TEMKINA, N. S.

"The Effect of an Electric Field at the Surface of an Emitter on Knocking Out Electrons With Atomic Particles"

Tr. Leningr. politekhn. in-ta (Works of Leningrad Polytechnical Institute, 1970, No 311, pp 94-99 (from RZh-Fizika, No 12(I), Dec 70, Abstract No 12Zh652)

Translation: A technique is described for measuring electron emission under the action of fast atomic particles bombarding a thin filament in the presence of strong electric fields at the surface of the filament. The measurements were conducted by bombarding a tungsten filament with atoms and molecules of hydrogen obtained in the overcharging of accelerated ions of this gas. It was shown that producing a field of strength up to $1.4 \cdot 10^5$ v/cm at the surface of the emitter leads to a certain increase in the emission associated with the increase in the probability of excited electron yield (an analog to the Schottky effect for thermoelectron emission). 14 references. Authors abstract.
1/1

- 63 -

USSR

TEMKINA, V. S., SHCHERBINA, G. V.

"Laminar Flow of a Viscous Incompressible Liquid in a Porous Pipe With Uniform Pumping"

Translation: The equation of flow of a viscous incompressible liquid in a porous pipe with uniform pumping is discussed. The equation was obtained by Berman and was investigated by various authors. It is shown that at small pumping velocities λ there exists a positive solution $f(r, \lambda)$ which gives a unique branch of solutions bounded for $\lambda \to 0$. The problem is then investigated numerically and it is shown that the positive solution is unique only for $\lambda \leq \lambda_0$, in the interval (λ_0, λ_1) there are no positive solutions, and for $\lambda \geq \lambda_1$ this solution is nonunique. In addition, for $\lambda \to 0$ there exists one more branch of solutions (with reverse flow), but then the value of the velocity for $\lambda \to 0$ rises without limit. Authors' abstract.

1/1

- 38 -

USSR

UDC 532.529.5/.6

KOPACHEVSKIY, N. D., TEMKIN, L. A., TEMKINA, V. S.

"Oscillations of a Drop of Liquid on a Plane Under Conditions of Weight-lessness"

Translation: This article contains a study of the classical problem of determining the frequencies and shapes of small oscillations of a drop of an ideal liquid on a plane under conditions of complete weightlessness. The linear problem of eigenvalues for the case of an arbitrary contact angle is reduced to a system of one-dimensional integral equations which then is solved numerically on the M-20 computer. The case of a small contact angle and also the case where the contact angle is equal to a straight line are investigated separately. The bibliography has 8 entries.
1/1

010
TITLE--COMPLEXONES -U-

UNCLASSIFIED

PROCESSING DATE--16OCT70

AUTHOR-(03)-DYATLOVA, N.M., TEMKINA, V.YA., KOLPAKOVA, I.D.

COUNTRY OF INFO--USSR

SOURCE--COMPLEXONES (KOMPLEKSONY) MOSCOW, KHIMIYA, 1970, 416 PP

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COMPLEX COMPOUND, CONJUGATE BOND SYSTEM, MONOGRAPH, RARE EARTH METAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1991/0561

CIRC ACCESSION NO--AM0110363

STEP NO--UR/0000/70/000/000/0001/0416

UNCLASSIFIED

2/2   010

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: PREFACE 5.
INTRODUCTION 17.   PART I. FUNDAMENTAL RULES AND INVESTIGATION METHODS
OF THE COMPLEXING PROCESS 11.   CHAPTER 1 FACTORS EFFECTING THE
COMPLEXING PROCESS 11.   2 BASIC PHYSICO CHEMICAL METHODS FOR
INVESTIGATION OF COMPLEXONES AND THEIR COMPLEXES 37.   PART II.   THE
EFFECT OF STRUCTURE OF COMPLEXONES ON THEIR COMPLEXING ABILITY 80.
CHAPTER 1 THE EFFECT OF BASICITY OF THE NITROGEN ATOM OF THE
IMINODIACETATE GROUP ON THE STRENGTH OF FORMED COMPLEXES 81.   2
CARBOXYALKYLATED AMINES 84.   3 COMPLEXONES CONTAINING HETEROATOMS,
OXYGEN, NITROGEN, SULFUR IN THE HYDROCARBON CHAIN OF ALIPHATIC OR CYCLIC
RADICALS 127.   4 COMPLEXONES CONTAINING VARIOUS FUNCTIONAL GROUPS
CAPABLE OF COMPLEX FORMATION 137.   5 COMPLEXONES CONTAINING HIGHLY
CONJUGATE SYSTEMS OF DOUBLE BONDS 192.   6 POLYCOMPLEXONES 238.
PART III. PRODUCTION OF COMPLEXONES AND THEIR COMPLEXES WITH METALS
259.   CHAPTER 1 FUNDAMENTAL PRINCIPLES IN PRODUCTION OF COMPLEXONES
259.   2 METHODS FOR PRODUCTION OF SOLID CHELATES 277.   PART IV.   USE
OF COMPLEXONES AND THEIR COMPLEXES 292.   CHAPTER 1 CHEMICAL ANALYSIS
293.   2 SEPARATION OF RARE EARTH ELEMENTS 335.   3 THERMAL POWER
ENGINEERING 349.   4 AGRICULTURE 360.   APPENDIX 369.   SUBJECT
INDEX 412.   THE MONOGRAPH DEALS WITH THE THEORY OF ACTION OF
COMPLEXONES, THEIR SYNTHESIS AND APPLICATION.   THE BOOK WAS WRITTEN FOR
EMPLOYEES OF SCIENTIFIC RESEARCH ENTERPRISES, COLLEGE PROFESSORS AND
STUDENTS SPECIALIZING IN THE FIELD OF ANALYTICAL AND PHYSICAL CHEMISTRY.

USSR

BRODSKIY, V.B., TEMKINA, YE.M.

"Radiation Of Dipoles Through A Matched Layer Of Magnetized Plasma"

Abstract: Approximate analytical expressions are presented for the patterns of radiation of dipoles through a uniform layer of plasma found in a uniform magnetic field perpendicular to the layer. The plasma layer is matched with the exterior space. Graphs are shown of a number of radiation patterns. 10 fig. 3 ref. Received by editors, 16 June 1971.

1/1

USSR   UDC: 681.335

TEMNENKO, G. K., PALADIY, M. V., ANDRONATIY, N. R.

"Bridge Scanners for Phototracking Systems"

Elektroenerg. i avtomatika (Electric Power and Automation), vyp. 6, Kishinev,
Moldavian SSR Academy of Sciences, 1970, pp 64-74 (from RZh-Avtomatika, Tele-
mekhanika i Vychislitelnaya Tekhnika, No 8, Aug 70, Abstract No 8B133)

Translation: This article contains an investigation of the operating principle
and methods of designing a bridge scanner with a high-resistance output used
in automatic control systems and in computation devices when reproducing in-
formation given in the form of graphs. There are five illustrations and a
nine-entry bibliography.

1/1

USSR

GORBUNOV, V. I., POKROVSKIY, A. V., TEMNIK, A. K.

"Several Ways of Raising the Sensitivity of the Scintillation Method of Betatron Defectoscopy"

Translation: Fluctuation phenomena in the electric circuits in the detection-recording section of a betatron defectoscope are analyzed on the basis of probability theory and mathematical statistics. It is shown that the most promising way of raising the signal-to-noise ratio in betatron defectoscopy with scintillation counters is the application of comb-shaped filters in the recording circuits. K. B.

1/1

USSR

UDC 669.71.042.62

BALAKHONTSEV, G. A., ANDREYEV, V. F., DEVYATKIN, A. B., TEMNIKOV, A. V.,
SHADRIN, G. G.

"Selection of Height of the Direct Cooling of an Ingot With Water During
Continuous Casting With Blowing"

Tekhnol. Legkikh Splavov. Nauchno-tekhn. Byul. VILSa [The Technology of Light
Alloys, Scientific and Technical Bulletin of the All-Union Institute of Light
Alloys], 1970, No. 5, pp 9-12. (Translated from Referativnyy Zhurnal Metallur-
giya, No. 5, 1971, Abstract No. 5 G135 by S. Krivonosova).

Translation: In order to determine the optimal height of the cooling band,
electric modeling of the temperature fields in an ingot 720 mm in diameter was
performed with a casting rate of 20 mm/min, using type-D16 alloy. Modeling
was performed using a quasi-analog method, allowing both conductive heat trans-
fer and heat transfer due to movement of the body (convection) to be considered.
The optimal water blowing height was found to be 160±10 mm. However, the de-
sired parameter is rigidly related to the quantities which determine it. For
example, a change in blowing height by 20 mm changes the surface temperature
from 50 to 150°. Therefore, when a new technology is being introduced, prelim-
inary investigation of the process with the electric model is required. 4
figs.

1/1

1/2   016   UNCLASSIFIED   PROCESSING DATE--20NOV70
TITLE--TEMPERATURE CALCULATION IN MOTION OF A FLAT ANNULAR HEAT SOURCE IN
 APPLICATION TO DIAMOND DRILLING -U-
AUTHOR-(03)-REZNIKOV, A.N., BUYTSOVA, L.V., TEMNIKOV, A.V.

COUNTRY OF INFO--USSR

SOURCE--INZHENERNO FIZICHESKIY ZHURNAL, 1970, VOL 18, NR 1, PP 154-161

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--GLASS PROCESSING, DIAMOND, BORING MACHINE, HEAT SOURCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1936   STEP NO--UR/0170/70/018/001/0154/0161

CIRC ACCESSION NO--AP0125525
                   UNCLASSIFIED

CIRC ACCESSION NO--AP0125525

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FIG. 1. SCHEME OF TEMPERATURE
   FIELD CALCULATION OF PLANE ANNULAR MOVABLE HEAT SOURCE.   FIG. 2.   GRAPH
   FOR DETERMINATION OF FUNCTION F SUB1, (A) (1 DIAMETER OF SOURCE 25 MM;
   2, 20; 3, 17; 4, 12) AND F SUB2 (DELTA).   S, MM-SEC; F SUB1 CM PRIME2
   TIMES SEC DEGREESC-CAL; ALPHA, CAL-CM PRIME2 TIMES SEC DEGREESC; F SUB2,
   CM PRIME2 TIMES SEC. DEGREESC-CAL.   FIG. 3.   SCHEME OF TEMPERATURE
   CALCULATION AT END FACE OF THIN COOLING ROD.   FIG. 4.   SCHEME OF GLASS
   DRILLING BY DIAMOND: 1, BODY OF DIAMOND DRILL; 2, DIAMOND LAYER; 3,
   TESTED GLASS; M SUBC, WORKING FACE OF DRILL.   SUMMARY.   IN THE PAPER
   THE METHOD OF HEAT SOURCES IS APPLIED TO SOLUTION OF THE PROBLEM ON
   TEMPERATURE APPEARING IN A SOLID MASSIF WITH AN ANNULAR HEAT SOURCE
   MOVING IN IT. THE SOLUTION RESULTS ARE SUED FOR TEMPERATURE CALCULATION
   IN GLASS BORING BY A DIAMOND ANNULAR DRILL. CALCULATION SCHEMES ARE
   SHOWN IN FIGS 1, 3, AND 4.
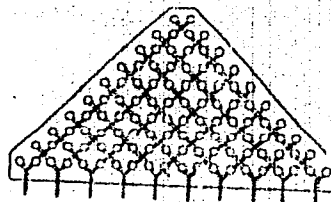
UNCLASSIFIED

USSR   UDC: 621.3.049.73

KUVYRKOV, P. P., TEMNIKOV, F. Ye., Moscow "Order of Lenin" Power Engineering
Institute

"A Circuit Board"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 10, Apr 71, Author's Certificate No 298088, Division H, filed 24 Feb 69,
published 11 Mar 71, p 197

Translation: This Author's Certificate introduces a circuit board which
contains a network of current-conducting mounting wires arranged on both
sides of the board, and holes for accommodating and soldering hanging com-
ponents. As a distinguishing feature of the patent, the process of instal-
lation and construction of functional electronic subassemblies is simplified
by using V-shaped wires with one branch on one side of the board and the
other branch on the opposite side. Each of the branches on one side of the
board intersects with all the other branches on the other side.

1/1

Acc. Nr: AP0043758   Ref. Code: UR 0050

PRIMARY SOURCE: Meteorologiya i Gidrologiya, 1970, Nr 3,
                  pp 58-64

UTILIZATION OF TV INFORMATION FROM METEOROLOGICAL
EARTH'S SATELLITES FOR HYDROLOGICAL AIMS

S. N. Temnikov

A method for processing and analysis of information obtained from meteorologica:
satellites is suggested.

REEL/FRAME
19770164

UNCLASSIFIED   PROCESSING DATE--13NOV70
TITLE--REACTION OF METALLIC DERIVATIVES OF COMPOUNDS HAVING A LABILE
   HYDROGEN ATOM WITH ALPHA HALO KETONES. XVIII. REACTION OF
AUTHOR-(03)-TEMNIKOVA, T.I., ASTAFYEVA, A.YE., SEMENOVA, S.N.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 736-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HALOGENATED ORGANIC COMPOUND, ORGANOSODIUM COMPOUND, ACETATE,
   FURAN, CARBOXYLIC ACID, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1952

STEP NO--UR/0366/70/006/004/0736/0739

CIRC ACCESSION NO--AP0125541
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0125541

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF PHCO, CHCLPH WITH MECOCHNACO SUB2 ET GAVE PHCOCHPHCHACCO SUB2, ET, WHICH WAS CYCLIZED IN REFLUXING 2OPERCENT H SUB2 SO SUB4 TO 3,CARBETHOXY, 4,5,DIPHENYL,2,METHYLFURAN (I). THE HYDROLYSIS OF I GAVE 4,5, DIPHENYL,2,METHYLFURAN,3,CARBOXYLIC ACID. ANALOGGUSLY, STARTING WITH MEC SUB6 H SUB4 COCHCLPH, 5,TOLYL ANALOG OF I AND THE CORRESPONDING ACID WERE PREPD.

UNCLASSIFIED

1/2   023   UNCLASSIFIED   PROCESSING DATE--30OCT70
TITLE—REACTION OF SODIO ACETOACETIC ESTER WITH TRANS,2,BUTENE OXIDE AND
   OF SODIUM BENZOYLACETIC ESTER WITH PROPYLENE OXIDE AND TRANS,2,BUTENE
AUTHOR-(04)-TEMNIKOVA, T.I., MARKINA, G.V., BORODAVKO, Y.A., YASKINA, N.I.

COUNTRY OF INFO--USSR

SOURCE—ZH. ORG. KHIM. 1970, 6(4), 739-43

DATE PUBLISHED----------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS—LACTONE, IR SPECTRUM, MAGNETIC RESONANCE, ORGANOSODIUM
   COMPOUND, ACETATE, ORGANIC OXIDE, MOLECULAR STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1953
                                STEP NO--UR/0366/70/006/004/0739/0743

CIRC ACCESSION NO--AP0125542
                         UNCLASSIFIED

272   023

CIRC ACCESSION NO--AP0125542   UNCLASSIFIED

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE REACTIONS GAVE PROCESSING DATE--30OCT70
ALPHA,ACETYL,BETA,GAMMA,DIMETHYL,GAMMA,
BUTYROLACTONE,ALPHA,BENZOYL,GAMMA,METHYL,GAMMA,BUTYROLACTONE (I), AND
ALPHA,BENZOYL,BETA,GAMMA,DIMETHYL,GAMMA,BUTYROLACTONE.   THE STRUCTURES
OF THESE COMPDS. WERE DETD. BY IR AND PMR SPECTROSCOPY.   THE
DECARBOXYLATION OF I GAVE KNOWN MECH(OH)CH SUB2 CH SUB2 COPH.   THESE
LACTONES CONTAIN CIS-H ATOMS IN BETA AND GAMMA POSITIONS.
FACILITY: LENINGRAD. GOS. UNIV., LENINGRAD, USSR.

UNCLASSIFIED

CIRC ACCESSION NO--AP0128560
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A REVIEW WITH 307 REFERENCES
 THROUGH 1968, COVERING INTRA, AND INTERMOL. CYCLIZATION REACTIONS OF
 EPOXIDES, INCLUDING THEIR DIMERIZATION AND CYCLOMERIZATION AND SYNTHESIS
 OF CARBOCYCLIC AND HETEROCYCLIC COMPDS. BY MEANS OF SUCH REACTIONS.
   FACILITY: LENINGRAD. GOS. UNIV., LENINGRAD, USSR.

UNCLASSIFIED

1/2   010   UNCLASSIFIED   PROCESSING DATE--20NOV70
TITLE--REACTIONS OF ALPHA HALO KETONES. XXIII. CORRELATION BETWEEN
   REACTIVITY AND SENSITIVITY IN THE SOLVOLYSIS OF TERTIARY ALPHA BROMO
AUTHOR-(03)-KARAVAN, V.S., TIMOFEYEVA, L.A., TEHNIKOVA, L.I.

CCUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 958-61.

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION KINETICS, SOLUBILITY, KETONE, BENZENE
   DERIVATIVE, BROMINATED ORGANIC COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1315   STEP NO--UR/0366/70/006/005/0958/0961

CIRC ACCESSION NO--AP0134989
                          UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0134989
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLVOLYSIS KINETICS WERE
STUDIED AT 25DEGREES IN 100, 98, 95, OR 90PERCENT ETOH OF PH SUB2 CBRCOC
SUB6 H SUB4 X,P (I) AND (P,SC SUB6 H SUB4) PHCBRBZ (II) (X IS OME, ME,
PH, H, OR CL). THE REACTIVITIES OF I AND II OBEY THE WINSTEIN EQUATION
(E. GRUNWALD, ET AL., 1948). THERE IS A LINEAR RELATION BETWEEN THE
SOLVOLYSIS RATE CONST. AND THE PARAMETER M. THE INCREASE IN REACTIVITY
(IN MORE POLAR SOLVENTS) IS ASSOCD. WITH A DECREASE IN THE REACTIVITY
PARAMETER P.   FACILITY: LENINGRAD. GOS. UNIV., LENINGRAD, USSR.

UNCLASSIFIED

111180q Preparation of 2-phenoxy-3,3-dimethyl-2-(p-chloro-phenyl)oxetane. Temnikova, T. I.; Veneliktova, N. A. (Leningrad. Gos. Univ., Leningrad, USSR). Zh. Org. Khim. 1970, 6(2), 406 (Russ). Heating p-ClC₆H₄COCMe₂CH₂O₃S-C₆H₄Me with PhOK in PhOH soln. 50 hr at 80° gave the title compd., isolated by chromatog. on Al₂O₃.

CPJR

Acc. Nr.
AP0041538
Abstracting Service:
CHEMICAL ABST.   *4/70*

Ref. Code
UR 0366

89970y Chemical transformations of α-haloketones. Reaction of ring-substituted phenacyl bromides with sodium methylate. Temnikova, T. I.; Dneprovskii, A. S.; Barashkin, V. D.; Kobzeva, A. I. (Leningrad. Gos. Univ., Leningrad, USSR). Zh. Org. Khim. 1970, 6(1), 76-80 (Russ). The reaction of p-XC₆H₄COCH₂Br (I) with MeONa in MeOH soln. at ~0° gave 1,3-bis(p-X-substituted-phenyl)-4-bromo-2,3-epoxybutan-1-one (II) and p-XC₆H₄COCH₂OH (III) (X is H, Cl, or Br). The formation of II proceeds through an intermediate carbanion p-XC₆H₄COC⁻HBr, which condenses with I giving p-XC₆H₄COCHBrC(O⁻)(CH₂Br)C₆H₄X-p (IV). The loss of α-Br⁻ from IV gives II. The formation of III starts with the addn. of MeO⁻ to I giving p-XC₆H₄C(O⁻)(CH₂Br)OMe which is hydrolyzed to p-XC₆H₄C(OMe)₂CH₂OH (V) and converted to III. The ketal V (X = Cl) was isolated. The reaction of I (X = Br) with MeONa in HCONMe₂ gave HCO₂CH₂COC₆H₄-Br-p, which was hydrolyzed easily to III (X = Br).   CPJR

REEL/FRAME
19751406

UDC 8.74

USSR

TEMOV, V. L.

"Utilization of a Defining Machine to Describe the Semantics of the INF Programming Language"

V sb. Teoriya yazykov i metody postroyeniya sistem programmir. (Language Theory and Methods of Constructing Programming Systems--collection of works), Kiev-Alushta, 1972, PP 190-196 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V440)

Translation: A study was made of the possibility of utilizing a defined machine for the description of the semantics of the INF programming language. The INF object is the model of the mathematical object which is independent of the machine representation. The INF language has the following types of data: numbers, boolean files, complex files, and multidimensional files of these elements, rows, files of names (the elements of which are the names of the derivative objects), tags, cycle variables, procedures and functions. In addition, the programmer can describe new types of objects, composing them from the nu-merical, row and reference characteristics (the values of the latter are the names); objects of new types can be combined into multidimensional files. The INF operations (there are about 100 of them) are divided into the following

1/2

$TEMNYY, V.V.$

Measurement of Low-Energy Electrons

(Abstract: "Measurement of Low-Energy Electrons," by Yu. I. Gal'perin, N. V. Dzhordzhio, I. D. Ivanov, L. P. Karpinskiy, E. L. Lein, T. M. Mulyarchik, B. V. Polenov, V. V. Temnyy, N. I. Fedorova, B. I. Khazanov, A. V. Shifrin and F. K. Shuyskaya; Moscow, Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 108-119)

[Note: This is part of a sectionalized article "Study of Geoactive Corpucles and Photoelectrons on the Satellite 'Kosmos-261'," Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 104-136]

A spectrometer for low-energy electrons, operating in the energy range 30 eV-15 keV, is described. Electrons undergo energy selection in a cylindrical capacitor and then are accelerated to 17 keV and are registered by a scintillation counter with two photomultipliers operating in a coincidence circuit. The instrument field of view is circular, the aperture angle is +3.5°, the geometry factor is $2 \cdot 10^{-3}$ cm^2.sterad and the energy resolution is $\Delta E/E = 0.19$. In the first range (30-150 μV) energy scanning is done smoothly by applying a sawtooth voltage; in the second analysis it is done smoothly at three fixed energies -- 1, 4.5 and 15 keV. The instrument can be switched from one regime to another by command from

/2

AP0042568

the earth. The paper gives the first results of measurements on the "Kos-
mos-261" satellite. The instruments measured the equilibrium energy spec-
trum of fresh photoelectrons at different latitudes for different pitch
angles. Soft auroral electrons with energies from 30 eV to approximately
1 keV were registered both in the "second" zone of auroras and in the main
zone of auroras in which electrons with energies 4.5 and 15 keV were also
very intensive even during magnetically quiet times. On many revolutions
of the satellite about the earth, passing approximately along the auroral
oval, with transition from the midnight to the morning sectors there is a
structureless "background" of electrons with an almost constant intensity
and slowly changing angular distribution. The energy flux of these elec-
trons is approximately 1 erg/cm^2·sec. Near the midnight sector and with
transition from the midnight to evening sector the fluxes of auroral elec-
trons are far more irregular, with strong peaks, particularly at about 4.5
keV. No measureable electron intensities were discovered in the middle
and low latitudes in the keV range. The upper limit of the energy flux
in the quiet atmosphere is approximately $<1.5 \cdot 10^{-2}$ erg/cm^2·sec. An ex-
ception is the equatorial region of the ionospheric anomaly, where as
earlier (on the "Kosmos-5" satellite) there was sporadic registry of soft
electrons.

19760548

V.V.   TEMNYY   —

/1

Acc. Nr.: AP0042570

Ref. Code: UR0293
JPRS 5016 2

Study of Geoactive Corpuscles and Photoelectrons

(Abstract: "Study of Geoactive Corpuscles and Photoelectrons on the
'Kosmos-261' Satellite," by A. D. Bolyunova, M. L. Bragin, Yu. I. Gal'-
perin, V. A. Gladyshev, N. V. Dzhordzhio, G. N. Zlotin, I. N. Kiknadze,
R. A. Kovrazhkin, T. M. Mulyarchik, Yu. N. Ponomarev, V. V. Temnyy, N. I.
Fedorova, Yu. P. Shilyayev, F. K. Shuyskaya and R. V. Shulenina; Moscow,
Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 104-136)
        The artificial earth satellite "Kosmos-261" was used in a study of
low-energy geoactive corpuscles and fresh photoelectrons and their inter-
action with the earth's upper atmosphere. The satellite was launched on
10 December 1968. Orbital inclination to the equator was 71°, so that for
a relatively long time it moved almost along a tangent along the auroral
zone over the Soviet Far North, making it possible to increase the volume
of simultaneous measurements from the satellite and from ground observa-
tories. The storage regime made it possible to extend continuous measure-
ments for periods of several revolutions, including passes over the auroral
zones in the Arctic and Antarctic and over the polar caps as far as in-
variant geomagnetic latitudes 82-85°. During the initial period the
satellite apogee was at 670 km and perigee was at 217 km, but it finally

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burnt up upon entering into the dense layers of the atmosphere on 12 February 1969 after making 857 revolutions of the earth. The experiment lasted 53 days. The orbit was such that in the northern hemisphere middle and high latitudes the satellite moved below or close to the maximum of the F region so that ionospheric electron density along its trajectory and its variations could be determined in a number of regions on the basis of measurements by ground ionospheric stations. The period of the experiment included both quiet periods and those with strong disturbances. The experiment was conducted under the "Program of Cooperation Among Socialist Countries in the Field of Space Research and Peaceful Use of Space." Ground measurements were made in Bulgaria, Hungary, East Germany, Poland, Rumania, USSR and Czechoslovakia. Observatories and special expeditionary stations in the USSR participated: in Yakutia, the Far North, Siberia and middle latitudes. The article cited below is divided into four parts: 1) Description of Experiment; 2) Measurement of Low-Energy Electrons; 3) Measurement of Low-Energy Ions; 4) Measurements of Charged Particles with Intermediate and High Energies. Parts 2)-4) are essentially independent articles and are abstracted separately.

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Measurements of Intermediate- and High-Energy Particles

(Abstract: "Measurements of Charged Particles of Intermediate and High Energies," by A. D. Bolyunova, A. D. Verevkin, Yu. I. Gal'perin, L. S. Gorn, L. S. Zhurina, I. D. Ivanov, R. N. Isayeva, I. P. Karpinskiy, R. A. Kovrazhkin, V. V. Temnyy, B. I. Khazanov, A. V. Shifrin and F. K. Shuyskaya; Moscow, Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 126-135)

[Note: This is part of a sectionalized article "Study of Geoactive Corpuscles and Photoelectrons on the Satellite 'Kosmos-261'," Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 104-136]

This article describes the RIE-205 scintillation spectrometer for electrons of intermediate energies, the RIP-802 scintillation spectrometer for protons and the RIG-III lead-shielded Geiger counter. The RIE-205 instrument measured electrons in the ranges 20-45, 45-85, 85-120 and 120-150 keV and the total intensity of electrons with an energy greater than 150 keV (geometry factor $2 \cdot 10^{-3} cm^2 \cdot sterad$). The RIP-802 instrument measured protons in the ranges 0.30-0.45, 0.45-0.70, 0.70-0.95 and 0.95-9 MeV with a geometry factor of $1.5 \cdot 10^{-2} \cdot sterad$. The RIG-111 instrument measured

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protons with $E > 50$ MeV and hard electrons. In the radiation belts and auroral zones the instruments measured the fluxes and energy spectra of electrons and protons, their distribution by pitch angles and spatial-temporal characteristics. It was possible to determine the latitude variation of the intensity of injected electrons, the pitch distribution of intensity for auroral zone electrons and the differential electron spectra. For example, the electron fluxes measured with the RIE-205 spectrometer can be assigned to the following groups: a) trapped electrons in the inner zone ($L \leq 2.5$) were registered for the most part in the region near the Brazilian anomaly; their flux for an energy $E > 150$ keV attained 10^8 particles/$cm^2 \cdot$sec, and was highly dependent on pitch angle; a pronounced maximum was observed for pitch angles $90°$; b) trapped electrons in the outer zone $2.5 \leq L \leq 7$, also with a maximum intensity for pitch angles of $90°$; in many cases quasitrapped particles were registered in the region of invariant coordinates $h_{min} \leq 100$ km with intensities up to $2 \cdot 10^6$ particles/$cm^2 \cdot$sec$\cdot$sterad; c) sporadic hard electrons injected into the atmosphere in the middle latitudes; in these cases the mean energy was usually ~ 100 keV and the particle flux attained 10^5 particles/$cm^2 \cdot$sec; d) electrons of intermediate and high energies injected into the atmosphere in the high latitudes; they are frequently observed near the auroral zone.

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A70-24315 #   Study of the geoactive particles and photo-electrons by means of satellite 'Kosmos-261.' IV—Study of charged particles with a middle and high energy (Issledovanla geoaktivnykh korpuskul i fotoelektronov na sputnike 'Kosmos-261.' IV—Izmereniia zariazhennykh chastits srednikh i vysokikh energii). A. D. Boliunova, A. D. Verevkin, Iu. I. Gal'perin, L. S. Gorn, L. S. Zhurina, I. D. Ivanov, R. N. Isaeva, I. P. Karpinskii, R. A. Kovrazhkin, V. V. Temnyi, B. I. Khazanov, A. V. Shifrin, and F. K. Shuiskaia. *Kosmicheskie Issledovaniia*, vol. 8, Jan.-Feb. 1970, p. 126-135. 7 refs. In Russian.

Descriptions of the scintillation spectrometers for measuring the electrons with energy ranging from 20 to 150 keV and more, protons with energy ranging from 0.30 to 9 MeV. A lead-screened Geiger counter for measuring the protons with energy above 50 MeV and rigid electrons is also described. The latitude-dependent intensity distribution of the intrusive electrons is determined together with the pitch distribution of the electron intensity in the auroral zone, and differential electron spectra.   Z.W.

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KHENNIG, K., TEMPEL'KHOFF, K., and USMANOVA, C. A.

"Interaction of Ultracold Neutrons With Matter"

Ob'yedin. in-t yadern. issled. Labor. enytron. fiz., No 14-5189 (Joint Institute of Nuclear Research. Laboratory of Neutron Physics, No 14-5189), Preprint, Dubna, 1970, 22 pp, ill. (from RZh-Fizika, No 4, Apr. 71, Abstract No 4V509).

Translation: Various interaction processes of ultracold neutrons with matter are discussed. The use of ultracold neutrons to study effects associated with the variation of nuclear forces with spin is especially important for possible studies in the field of solid state physics. Abstract.

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TEMPEL'MAN, A. A.

"Ergodicity of Gaussian Homogeneous Random Fields in Homogeneous Spaces"

Teoriya Veroyatnostey i Eye Primeneniya [Theory of Probabilities and its Applications], 1973, Vol 18, No 1, pp 177-180 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V73, by the author).

Translation: This article finds a class of homogeneous spaces, in which all Gaussian homogeneous random fields containing no constant random "background" are ergodic. The general theorem indicates ergodicity of all relativistically homogeneous Gaussian fields without "background" and Gaussian homogeneous random fields in the Lobachevskiy space.

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TEMPEL'MAN, A.A.

"Criteria of Metric Transitivity of Gaussian Homogeneous Random Functions"

Lit. mat. sb. (Lithuanian Mathematical Collection), Vol 10, 1970, No 4, pp 815-834 (from Referativnyy Zhurnal - Matematika, No 8, Aug 71, Abstract No 8V152 by G. Molchan)

Translation: The Grenander-Maruyama res result of metric transitivity of a Guassian steady random process is generalized for the case of Gaussian functions $\xi(k)$, $k \in K$, that are uniform relative to an arbitrary group of automorphisms of K space. Criteris of the metric transitivity of Gaussian homogeneous fields for locally bicompact groups are derived as corollaries.

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KOVAL', Yu. P., MORDKOVICH, V. N., TEMPER, E. M., and KHARCHENKO, V. A.

"Optical Characteristics of Silicon Irradiated With Neutrons"

Abstract: This paper considers infrared absorption by silicon ir-radiation and consequent isochronal annealing. The silicon was n-type, with a resistivity of 200 ohm·cm and an oxygen concentration of $3-4·10^{17}$/cc. Part of the crystals were bombarded with neutrons without special cooling, with a temperature of 250° C, the other part being bombarded while in water. The annealing was done in a range of $100-800^\circ$ C, in steps of 50°, for 30 minutes at each step. For the specimens irradiated in water, at a temperature of less than 60° C, very strong absorption of infrared rays of 2-4 μ wave-length was observed. High absorption of 17-25 μ wavelengths was also seen in these specimens. The silicon crystals irradiated at 250° C, on the other hand, were transparent to the 2-4 μ as well as the 17-25 μ wavelengths. Curves are plotted for the absorption of the crystals as functions of the wavelength and the annealing

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temperature. Differences in absorption displayed by crystals of
different growth methods are also discussed. The authors express
their gratitude to V. G. Goryachev and S. P. Solov'yeva for their
interest in the work and their comments on the results.

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